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“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 8252-1 (1976): Environmental Tests for Aircraft Equipment, Part I: General [TED 14: Aircraft and Space Vehicles]

“ज्ञान से एक नये भारत का निर्माण”

Satyanaaranay Gangaram Pitroda

Invent a New India Using Knowledge



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartṛhari—Nītiśatakam

“Knowledge is such a treasure which cannot be stolen”



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Indian Standard

ENVIRONMENTAL TESTS FOR
AIRCRAFT EQUIPMENT"સુનપ્ટ રજીસ્ટ્રેશન"
"REAFFIRMED 1990"

PART I GENERAL

1. Scope — Lays down the general requirements and standard environmental test conditions as generally applicable to the series of Indian Standards on environmental tests for aircraft equipment.

Note — It is proposed to issue different parts of this series as shown in Appendix A.

2. Definitions

2.1 Relevant Equipment Specification — A specification prepared by an international standards organization, a national standards organization, manufacturer or purchaser for a particular item of aircraft equipment.

Other definitions shall be as stated in the relevant parts comprising this series of standards as appropriate to their subject matter.

3. General

3.1 The relevant equipment specification shall invoke any of the relevant environmental tests selected from this series of Indian Standards, and shall state the tests required to comprise a complete type test, including the severity grade, class, etc, to which the equipment shall be designed and tested. The relevant equipment specification shall also state the order in which these tests are to be carried out, and the parameters of the functioning tests required by these Indian Standards.

3.2 The relevant equipment specification shall also specify routine production tests and periodic quality control tests, the latter being based on selected type tests described in this series of Indian Standards.

3.3 When the relevant equipment specification and this series of Indian Standards for aircraft equipment allow alternatives, and when individual purchaser's specifications are based on these standards, it is the responsibility of the purchaser of the equipment to specify the appropriate severity grade, class, etc, selected from this series of Indian Standards and any special conditions for which the equipment shall be designed and tested.

3.4 The appropriate grades, classes or categories of equipment stated in this series of Indian Standards shall be used for the purpose of declarations of design and performance of aircraft equipment based on the form given in IS : 7855-1975 'Form of declaration of performance of aircraft electrical equipment'.

3.5 Consideration shall be given when drafting the relevant equipment specification, individual instances, to the need for applying concurrently two or more tests selected from these Indian Standards. If this is a requirement, the individual standard or specification shall state the possible interactions between these environments.

3.6 The relevant equipment specification for 'special-to-type' equipment may introduce variations of the test parameters given in this series of Indian Standards based upon the environment that the equipment will experience in that particular aircraft.

4. Standard Conditions — Unless otherwise stated, the following standard conditions shall apply to all tests stated in the subsequent parts comprising this series of Indian Standards.

4.1 Standard Laboratory Atmospheric Conditions — For the purpose of this series of Indian Standards the following standard laboratory conditions shall apply:

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|----------------------|---|
| a) Temperature | 15 to 35°C |
| b) Relative humidity | 45 to 75 percent |
| c) Air pressure | 86 to 106 kPa (or kN/m ²)
(860 to 1060 mbar) |

Any deviation from these conditions shall be noted and the actual condition recorded in the test report.

4.2 Standard Referee Atmospheric Conditions — When the performance of the equipment is sensitive to temperature, pressure and/or humidity and measurements are required for referee purposes, at intervals throughout a test programme, the following reference standard atmospheric conditions shall be applied:

- | | |
|----------------------|----------------|
| a) Temperature | 27 ± 1°C |
| b) Relative humidity | 65 ± 2 percent |
| c) Air pressure | 96 ± 10 kPa |

4.3 Tolerances on Environmental Test Conditions — Unless otherwise stated in the relevant equipment specification, the tolerances to be applied to the atmospheric parameters in the environmental tests shall be as follows:

- a) Temperature:
 $< 100^{\circ}\text{C} \pm 3^{\circ}\text{C}$
 $\geq 100^{\circ}\text{C} \pm 5^{\circ}\text{C}$
- b) Relative humidity : See individual tests
- c) Air pressure (not altitude) ± 5 percent

5. Supplies — Supplies and services (electrical power, air supplies, hydraulics, etc) shall, where relevant, be derived from or simulated by sources representative of those provided in operational use. The relevant equipment specification shall provide details of the necessary supplies and services.

A P P E N D I X A

(Clause 1)

PARTS OF INDIAN STANDARD ON ENVIRONMENTAL TESTS FOR AIRCRAFT EQUIPMENT

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|------------|--|
| Part I | General |
| Part II | Temperature, pressure and humidity |
| Part III | Humidity |
| Part IV | Ice formation |
| Part V | Ice accumulation |
| Part VI | Water-proofness |
| Part VII | Sand and dust |
| Part VIII | Change of temperature |
| Part IX | Mould growth |
| Part X | Salt mist |
| Part XI | Differential pressure |
| Part XII | Effects of ozone |
| Part XIII | Solar radiation |
| Part XIV | Vibration |
| Part XV | Constant acceleration |
| Part XVI | Bump and shock |
| Part XVII | Acoustic vibration |
| Part XVIII | Magnetic influence |
| Part XIX | Radio interference |
| Part XX | High voltage and insulation resistance |
| Part XXI | Explosion proofness |
| Part XXII | Fluid contamination |
| Part XXIII | Fire-resistance |

E X P L A N A T O R Y N O T E

This Indian Standard is the first of a series specifying simulated environmental tests to which aircraft equipment is to be subjected to demonstrate that it would function satisfactorily under normal aircraft operating conditions. The relevant equipment specification will define the appropriate test severities and the criteria for correct functioning.

This Indian Standard is based on ISO 2650-1974 ' Environmental tests for aircraft equipment—Part I Scope and applicability ' issued by International Organization for Standardization.